
 ? s (two or several) (5n)antibod?

4358242 TWO
 998019 SEVERAL
 1183113 ANTIBOD?

S1 39172 (TWO OR SEVERAL) (5N)ANTIBOD?
 ? s detect? or diagno?

Processing

2045105 DETECT?
 2389383 DIAGNO?
 S2 4138536 DETECT? OR DIAGNO?

? s s1 and s2

39172 S1
 4138536 S2
 S3 15916 S1 AND S2

? s minute?? or hour?? or min or hr

260754 MINUTE??
 451185 HOUR??
 592299 MIN
 154379 HR

S4 1289621 MINUTE?? OR HOUR?? OR MIN OR HR
 ? s s3 and s4

15916 S3
 1289621 S4
 S5 743 S3 AND S4

? s s5 and py<=1996

Processing

Processing

743 S5
 29189387 PY<=1996
 S6 570 S5 AND PY<=1996

? s rotation

S7 454277 ROTATION

? s s6 and s7

570 S6
 454277 S7
 S8 2 S6 AND S7

? rd

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...completed examining records

S9 1 RD (unique items)

? t s9/3,k,ab/1

9/3,K,AB/1 (Item 1 from file: 55)
 DIALOG(R)File 55:Biosis Previews(R)
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Influence of horizontal clinostat **rotation** on plant proteins: 1.

Effects on ubiquitinated polypeptides in the stroma and thylakoid membranes of *Vicia faba* L. chloroplasts.

AUTHOR: Wolf Doris; Schulz Margot; Schnabl Heide

AUTHOR ADDRESS: Inst. fuer Landwirtschaftliche Botanik, Universitaet Bonn,
Meckenheimer Allee 176, 5300 Bonn 1**Germany

JOURNAL: Journal of Plant Physiology 141 (3):p304-308 1993

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LANGUAGE: English

ABSTRACT: Proteins of the stroma and thylakoid membrane fractions of isolated chloroplasts from leaves of *Vicia faba* L. were investigated after clinostat **rotation** by SDS-PAGE and Western-immunoblot analysis with anti-ubiquitin **antibodies**. Two-week-old plants were rotated 15 and 24 **hours** on a slow clinostat. After a 24-h **rotation**, marked quantitative and qualitative changes in the polypeptide profile of thylakoid membrane proteins were found. Proteins of the stroma fraction (18 kDa and 57 kDa) revealed qualitative modifications. Thylakoid membrane proteins (15 kDa and about 20 and 30 kDa) exhibited changes in the immunoresponse to ubiquitin antibodies. The most obvious alterations of immunoreactive thylakoid membrane proteins were **detected** after 24 **hours** of **rotation** in the molecular range of about 20 and 30 kDa. The ubiquitination of these membrane-bound proteins is strongly diminished. This phenomenon probably indicates selective degradation of proteins through the ubiquitin pathway or of the appearance of new conjugates with unknown function. Protein samples of the stroma fraction showed an increased ubiquitination of the large subunit of the RuBPCase after either 15 h or 24 h of clinostat **rotation**. Free ubiquitin could be proved only in the 24 h treated samples. A changed protein turnover in soluble and membrane bound proteins of the chloroplasts after prolonged **rotation** on a slow clinostat is assumed.

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1993

ds

Set	Items	Description
S1	39172	(TWO OR SEVERAL) (5N)ANTIBOD?
S2	4138536	DETECT? OR DIAGNO?
S3	15916	S1 AND S2
S4	1289621	MINUTE?? OR HOUR?? OR MIN OR HR
S5	743	S3 AND S4
S6	570	S5 AND PY<=1996
S7	454277	ROTATION
S8	2	S6 AND S7
S9	1	RD (unique items)
S10	3704	HAK?
S11	24300	SHAK?

? s s6 and s11

	570	S6
	24300	S11
S12	4	S6 AND S11

? rd

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...completed examining records

S13	2	RD (unique items)
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13/3,K,AB/1 (Item 1 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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S14 7419 GENTLE
? ds

Set	Items	Description
S1	39172	(TWO OR SEVERAL) (5N)ANTIBOD?
S2	4138536	DETECT? OR DIAGNO?
S3	15916	S1 AND S2
S4	1289621	MINUTE?? OR HOUR?? OR MIN OR HR
S5	743	S3 AND S4
S6	570	S5 AND PY<=1996
S7	454277	ROTATION
S8	2	S6 AND S7
S9	1	RD (unique items)
S10	3704	HAK?
S11	24300	SHAK?
S12	4	S6 AND S11
S13	2	RD (unique items)
S14	7419	GENTLE

? s s6 and s14

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	7419	S14
S15	0	S6 AND S14